



United States  
Department of  
Agriculture

Forest  
Service

Southwestern Region  
Forest Health  
Arizona Zone Office

2500 S. Pine Knoll Drive  
Flagstaff, AZ 86001-6381  
FAX (928) 556-2130  
Voice (928) 556-2073

File Code: 3420  
Route To: (2300)

Date: March 18, 2003

Subject: Hazard Tree and Bark Beetle Observations in Selected Developed Sites and Administrative Sites of Blue Ridge and Long Valley RDs (blueridgerd)

To: District Ranger, Blue Ridge/Long Valley RDs

Bobbe Fitzgibbon, Entomologist, and I met with Henry Brill and Mike Manthei to evaluate recreation and administrative sites on the Blue Ridge and Long Valley RDs for bark beetle activity and hazard tree incidence. As in other areas across the state, many ponderosa pines in lower elevation sites and on south-facing slopes have been infested and killed by bark beetles. Because the overwintering beetle populations are high, we expect additional mortality to occur even if precipitation amounts return to near normal levels. However, we cannot predict the severity. Henry and Mike asked that Bobbe view sites being affected by the outbreak and offer any insight on management strategies. Due to the creation of dead trees in high-use areas, hazard tree identification was included in our visit. A hazard tree is defined as any tree with both a mechanical defect that could cause the tree to fail and a potential target. All trees within range of camping, parking or other high-use areas were examined.

The following sites were evaluated: Blue Ridge RD Administrative Site; Long Valley District administrative work site; Elk's Picnic Ground (PG); the Clint's Well proposed administrative site, Cinch Hook Snow Play area, and Clint's Well Campground.

### ***Blue Ridge District Office***

The focus here was on the large yellow-bark pines showing signs of decline. Henry flagged approximately 20 trees that were selected as imminent/potential hazard trees. A few trees are already dead, a few have been severely damaged during prescribed burning, a couple are in decline from severe squirrel feeding, and a few have extreme dieback due to drought. There are two live trees in the front parking area that have advanced internal decay. One of them will likely fail at the roots and the other in the top 1/3 of the main stem. In addition to the parking areas, targets included utility lines, outbuildings, and equipment.

We found only four small bark beetle-killed trees within the boundaries of this site, although others were observed in the surrounding area. These were marked for removal.

### ***Elks Picnic Ground***

Ips engraver beetles have killed hundreds of trees at this site. Some trees died last summer, some this winter, and some had dead tops with signs of bark beetles in the main stem. All dead and infested trees within and near the boundary are targeted for removal. Trees less than 9 inches DBH were already on the ground.



***Clint's Well Proposed Administrative Site***

This area has both large yellow pines and a dense pole component. Although bark beetle activity is low, Bobbe found evidence (boring dust and exit holes) of attack in four old-growth trees. Thinning this dense stand will reduce stress and susceptibility to beetle attack. We did not identify any hazards at this site since there is not a definite target. As planning progresses for the proposed site, keep in mind the identification and removal of potential hazard trees and use of techniques to protect desired trees during site construction.

***Cinch Hook***

There are several stretches of beetle-killed trees along Highway 87. Unfortunately, this has created quite a hazardous situation, as there are many dead and deteriorating trees that will eventually fall on the highway. Cinch Hook Snow Play area is in a similar situation. There are dead trees located at the tops of most of the sled runs, as well as on the edges of the parking area and the bathroom. Top breakage has already been reported in the area.

***Clint's Well Campground***

Approximately six hazard trees were identified, including dead trees, tops, and internal decay. One tree showing signs of internal decay was also compromised by a lean. Although beetle activity was light, thinning will reduce the susceptibility of the site to further attack.

***Happy Jack***

Approximately 20 trees were flagged for removal. As at the other sites, defects included deterioration of dead trees, internal decay, imminent mortality, and structural problems. Bark beetle-killed trees, which were also severely dwarf mistletoe-infected, were observed throughout the site and are targeted for removal.

***Discussion*****Bark Beetles**

Because the current beetle infestation is occurring on the landscape scale and is largely a result of the ongoing drought, it is essentially impossible to control beetle population as a whole through management actions. However, an integrated pest management approach limited to the most critical high-value areas, as was chosen here, is a wise approach.

Sanitation removal of infested trees is appropriate within high-value areas. It requires the removal of green trees that have live brood in them. Trees harvested are either moved to at least one mile from the nearest live host type or processed at the mill, prior to beetle emergence. Removing most of the currently infested trees can reduce the bark beetle population, which can provide some protection to surrounding uninfested trees. Residual trees are recovered that would otherwise be lost or degraded. Fuel loading and fire hazard can be reduced by removal of much of the dead needles and timber. Potential hazard trees are also removed from the site.

This treatment has a short implementation time. We recommend, as was done here, that areas be marked and cut prior to beetle flight; i.e., before the beginning of April. Sanitation will not be effective on a large scale. It is only effective at suppressing beetles at the stand/site level and so will not work on a landscape level. Site disturbance that accompanies tree removal occurs. Bobbe suggests monitoring for additional green infested trees with prompt removal every four to six weeks.

If a thinning project is undertaken, careful management of the slash is required while populations are high. Burning, chipping, or burying green material will help to reduce the potential for additional population increase of beetles. Thinning will be most effective in areas that are not currently experiencing high levels of beetle activity.

### Hazard Trees

The deterioration rate of dead trees depends primarily on tree species, size, and site conditions. Deterioration of ponderosa pine in the first year can be negligible, but increases to 30% by the end of the second year. The decay process starts in the outer sapwood and moves inward. Pole-size trees deteriorate faster than larger trees. Poles typically break off in the lower half of the stem, while larger trees often drop the upper third of the crown first. In recreation areas, dead trees need to be removed while not hazardous to sawyers. The bark beetle outbreak has created an overabundance of dead trees in developed recreation sites and along roadways throughout much of the state. Since there are likely not enough sawyers to cut them all immediately, we would recommend acting on the highest use areas first (e.g., highways and opened administrative sites), and then working on sites not in use this time of year.

Henry and Mike are commended for identifying and removing living hazard trees while removing the overabundance of dead trees created by the drought/bark beetle outbreak, especially since some of these trees had been identified a few years ago during other hazard analyses.

If you have any questions please call me at (928)556-2075.

/s/ Mary Lou Fairweather  
MARY LOU FAIRWEATHER  
Forest Pathologist, Forest Health,  
Arizona Zone

cc: Henry Brill, Bobbe Fitzgibbon, Michael Manthei, Joel McMillin, Mailroom R3 Coconino